June 8, 2017

The Honorable Ajit Pai, Chairman
The Honorable Mignon Clyburn, Commissioner
The Honorable Michael O'Rielly, Commissioner
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: GN Docket No. 16-46

Dear Chairman Pai and Commissioners Clyburn and O'Rielly:

Health IT Now (HITN) is pleased to submit our comments on the FCC request for comment and data on actions to accelerate adoption and accessibility of broadband-enabled healthcare solutions and advanced technologies. HITN is a diverse coalition of healthcare providers, patient advocates, consumers, employers, and payers who support the adoption and use of health IT to improve health outcomes and lower costs. We believe an open network with network prioritization connecting locations, people, and devices is critical for health IT innovations.

A nationwide broadband network is foundational to a connected healthcare system.

Broadband is an essential tool for communication, sharing information, conducting business, and improving health. Doctors, patients, and the public in general are increasingly reliant on smartphones and tablets for healthcare information, remote monitoring, and in delivering care.

Telehealth is not only expanding access to care to patients located in rural areas, it is transforming how everyday Americans interact with the healthcare system. For example:

- If employers follow through with their plans, telehealth adoption in the employer market could reach 92 percent by 2018.[1]
- Direct interactions with providers are being augmented by patients' use of mobile health apps to engage in their own health and wellness.
- Twenty-one percent of smartphone owners use health applications for exercise tracking, while sixty-two percent of smartphone owners use their phones to access health information.[2]

The speed of the healthcare system is also growing exponentially through the increased use of technology. Consider the following:

[1] *High-performance insights - best practices in health care* (Rep.). (2016). Willis Towers Watson.
[2] One in Five US Consumers Use Mobile Apps for Exercise Tracking. (n.d.). Retrieved June 08, 2017, from http://www.ctia.org/resource-library/facts-and-infographics/archive/mobile-apps-for-exercise-tracking

- Point of Care (POC) diagnostics - transportable, portable, and handheld instruments used in the workplace, home, and convenience clinics, for remote monitoring and other applications- produce quantitative lab-quality test results that can be transferred automatically to an information system, remote caregiver, or electronic health record.
- The University of Mississippi Medical Center (UMMC) is using technology to provide on-the-spot concussion evaluations for high school football players who are injured on the playing field. According to the American Association of Neurological Surgeons, more than 62,000 concussions are sustained each year in high school contact sports, and among college football players, 34 percent have had one concussion, and 20 percent have endured multiple concussions.[3] Early detection of concussions using technology can prevent further injury and potentially long-term effects of multiple concussions.

Healthcare anywhere, anytime connects the patient and provider virtually at the point and time of care, and has tremendous potential to improve patient care and to lower healthcare costs.

Transforming the healthcare system will accelerate with solid connectivity and device innovation. Because medical software consumes significant processing power and bandwidth to securely transmit images, medical records, video, and wireless monitoring and diagnostic tools, it is essential to have a seamless wireless connectivity nationwide.

Economists estimate that the application of Title II regulation on wired and mobile broadband services would reduce network investment by 12.8-20.8 percent.[4] Advancements in health IT dedicated services such as remote monitoring, diagnostics, and remote surgery should not be put at risk with one-size fits all utility style regulation that negatively impacts latency, quality of service, and device-to-device connectivity.

The FCC must act to amend its Open Internet rules to ensure the traditional utility regulations do not impede investment and innovation in the broadband market and device connectivity for health IT. Establishing procedures to prioritize specific types of content like health IT is essential to a robust care delivery network.

Refocusing and targeting investment strategies of the Universal Service Fund.

Universal service is the cornerstone of the *Communications Act of 1934*. Over the years, the Universal Service Fund (USF) has invested in common telephone services nationwide. The FCC recognizes that the tip-and-ring telephone service of yesterday is insufficient for the 21st Century where broadband carries both voice and data.[5]

The Telecommunications Act of 1996 expanded the traditional goal of the USF to include increased access to both telecommunications and advanced services – access to broadband – for all consumers at affordable rates. The Act established investment programs to extend evolving voice and data services for

[3] Early detection of concussions could minimize 'second impact syndrome' (2011, March 07). Retrieved June 08, 2017, from https://www.umc.edu/News_and_Publications/Centerview/2011-03-07-01_Early_detection_of_concussions_could_minimize__second_impact_syndrome_.aspx

[4] Hassett, K. A., & Shapiro, R. J. (2014, November). *The Impact of Title II Regulation of Internet Providers On Their Capital Investments* (Rep.). Retrieved June 8, 2017, from Sonecon website: http://www.sonecon.com/docs/studies/Impact_of_Title_II_Reg_on_Investment-Hassett-Shapiro-Nov-14-2014.pdf

[5] Universal Service. (2017, May 31). Retrieved June 08, 2017, from https://www.fcc.gov/general/universal-service

consumers living in rural and isolated areas, for consumers with low-incomes, and for increased broadband access in the nation's schools, libraries, and rural health facilities. The FCC established four programs within the USF[6] to implement the statute through the Universal Service Administrative Company, an independent not-for-profit organization charged with implementing FCC USF directives:

1. **Connect America Fund.** The fund subsidizes the cost of operating and extending infrastructure (both fixed and mobile) to serve consumers and small businesses in rural, high cost areas. The fund is capped at $4.5 billion annually.
2. **Lifeline.** Lifeline is a program for low-income consumers and residents of Tribal lands which focused on home telephone service or limited mobile service for the opportunities and security that phone service brings, including being able to connect to jobs, family, and emergency services. The fund is capped at $2.25b annually.
3. **Schools and Libraries.** The program provides discounts of up to 90 percent for broadband to and within elementary and secondary schools (public and private) and public libraries in rural and non-rural areas. The fund is capped at $2.4b annually.
4. **Rural Health Care**. This program subsidizes connectivity for public and non-profit healthcare providers, with a focus on rural areas. The program is capped at $400m annually.

Two-thirds of rural Americans have broadband internet access in their homes, but because of poor infrastructure or high prices, there is still a significant gap.[7] Further, rural areas have significantly slower internet access, with 39 percent lacking access to broadband of 25/4 Mbps, compared to only 4 percent for urban areas.[8] Even where fixed broadband connectivity is available, the high price of this service can be prohibitive to lower income Americans. While 93 percent of adults earning more than $75,000 per year are wired for broadband at home, the adoption rate is only 40 percent among adults earning less than $20,000 annually. These costs also contribute to racial disparities - almost 70 percent of whites have broadband at home, but only 59 percent of blacks and 49 percent of Hispanics have done the same.[9]

Few disagree of the importance of goal of the USF in expanding broadband to provide seamless coverage across the nation. Over the years, the programs administered by USAC have been plagued with allegations of fraud and abuse. The Lifeline program was expanded to include either a landline or cellular device. In a June 2016 letter to USAC CEO Chris Henderson, FCC Commissioner, now Chairman, Ajit Pai warned that abuse of the Lifeline low-income phone subsidy may be even more widespread than he first thought when launching an investigation into the program, to the tune $476 million a year. In April 2017, now Chairman Ajit Pai again wrote to USAC with concerns on administrative failures in the Schools and Libraries program. In the letter Chairman Pai stated, "Unfortunately, it has come to my attention that there are serious flaws in USAC's administration of the E-Rate program-flaws that relate to the process by which schools and libraries apply for E-Rate funding and that are in fact preventing many schools and libraries from getting that funding. Despite assurances from prior FCC leadership that these

[6] *Federal Communications Commission Universal Service Fund Overview* (Rep.). (n.d.). Retrieved June 8, 2017, from National Telecommunications and Information Administration website: https://www.ntia.doc.gov/files/ntia/publications/fcc_universal_service_fund_overview.pdf

[7] Perrin, A. (2017, May 19). Digital gap between rural and nonrural America persists. Retrieved June 08, 2017, from http://www.pewresearch.org/fact-tank/2017/05/19/digital-gap-between-rural-and-nonrural-america-persists/

[8] West, D. M., & Karsten, J. (2016, July 29). Rural and urban America divided by broadband access. Retrieved June 08, 2017, from https://www.brookings.edu/blog/techtank/2016/07/18/rural-and-urban-america-divided-by-broadband-access/

[9] Rosen, J. (2016, July 28). Universal Service Fund Reform: Expanding Broadband Internet Access in the United States. Retrieved June 08, 2017, from https://www.brookings.edu/research/universal-service-fund-reform-expanding-broadband-internet-access-in-the-united-states/

problems were being addressed, they appear to have persisted, to the detriment of students, library patrons, and taxpayers across the country." [10]

The RHC Program was initially used to allow rural healthcare providers to connect to the internet and send low-resolution X-rays and other medical tests to experts in urban healthcare facilities. However, with the rapid advance of technology, new services have been brought to rural areas that allow patients to have real-time, two-way videoconferences with medical experts, reducing their need to travel hours to receive care. But the growth of this technology has also led to a growth in demand for funding through the RHC Program.

With recent executive changes at USAC and new leadership at the FCC, it is time to rethink the USF goals and realign the programs administered by USAC. We must think beyond the classic views of the home, library, school, or health center, and focus on their broadband requirements as an access hub for services. As technology advances, we will not realize its potential until we eliminate all broadband dead zones. Emerging technologies will require on-demand computing and communications services that can scale based on demand and provide authentication and authorization security at the device and transport layer.

Recommendations

A scalable nationwide network to connect devices and computing services is critical for wide scale health innovation. [11] By 2020, it is estimated that there will be between 20 and 30 billion connected devices in use around the world.[12] Ubiquitous connectivity should be a high priority as technology grows exponentially.

To realize the goal of everything everywhere connectivity, the FCC should consider the following recommendations:

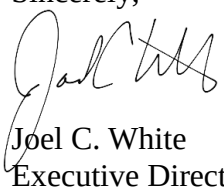
- Ensure regulations do not impede investment and innovation in the broadband market and device connectivity. Establishing procedures to prioritize specific types of content like health IT is essential as network capacity is consumed at an exponential rate.
- Realign the USF programs into an integrated approach to create an uninterrupted nationwide network of fixed, cellular, wi-fi, NFC, and emerging protocols. This will help create high bandwidth access hubs for learning, research, health, and wellness, and provide reduced rate connectivity services for rural and disadvantaged populations at home and on the go.
- Review all FCC initiatives to ensure they promote interoperability and security of systems, devices, and communications systems; provide free, fee-based, and subscription services; and convene industry and consumer groups to explore opportunities to evolve standards and innovation.

We appreciate the opportunity to share our feedback and comments on accelerating the adoption and accessibility of broadband-enabled healthcare solutions and advanced technologies. We look forward to

[10] Pai, A. V. (2017, April 18). USAC's Performance as Schools and Libraries Administrator [Letter written April 18, 2017 to Chris Henderson]. Retrieved June 8, 2017, from https://apps.fcc.gov/edocs_public/attachmatch/DOC-344459A1.pdf
[11] 5 Challenges of Internet of Things Connectivity. (2014, June 17). Retrieved June 08, 2017, from https://www.pubnub.com/blog/2014-06-17-5-challenges-of-internet-of-things-connectivity
[12] Gartner Says 6.4 Billion Connected. (2015, November 10). Retrieved June 08, 2017, from http://www.gartner.com/newsroom/id/3165317

continuing to work with the FCC to promote the use of technology in healthcare to improve health outcomes and lower costs.

Sincerely,



Joel C. White
Executive Director